

Assignment -4

Inventory Management System for Retailers –

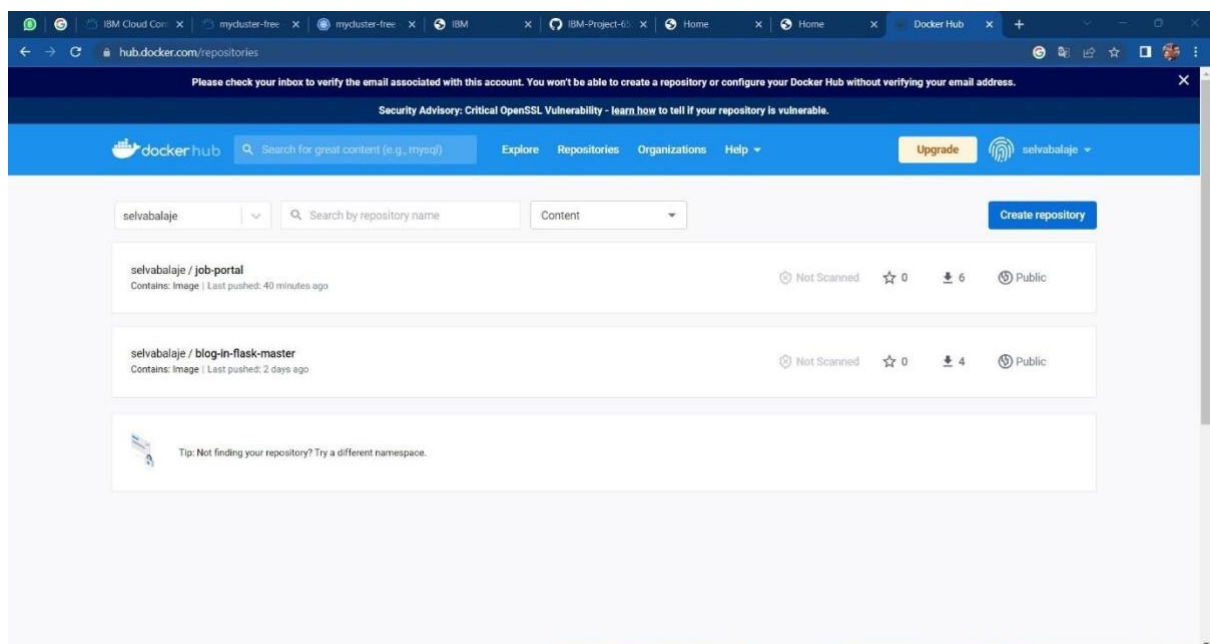
Student Name	Heerttika S
Student Roll Number	960519104029

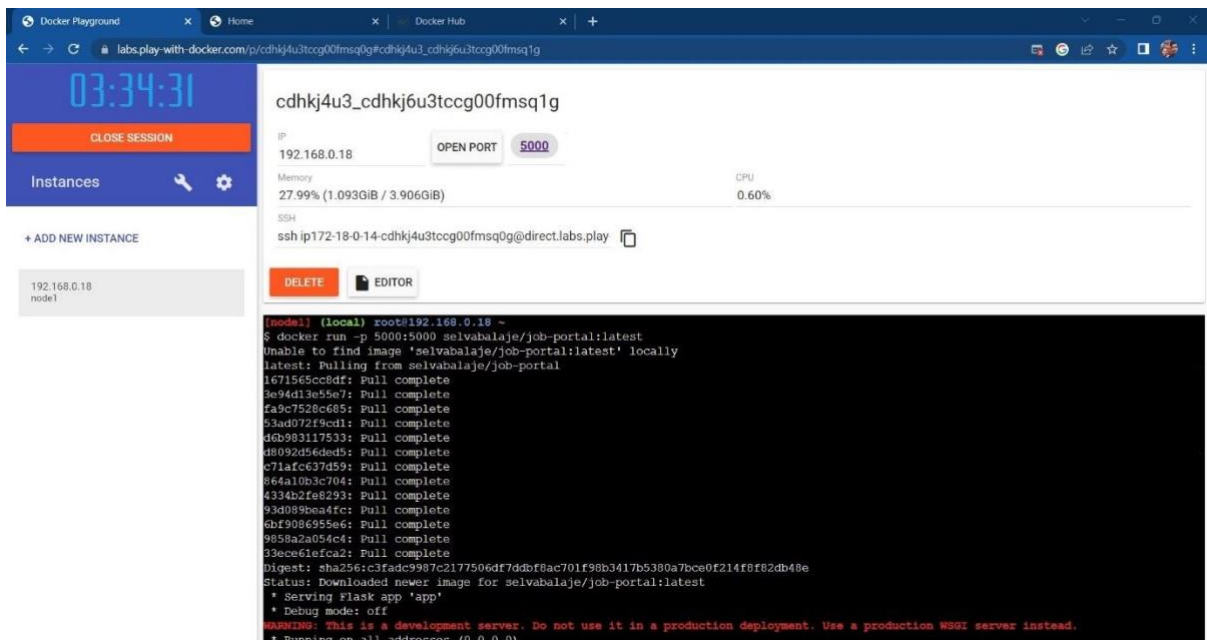
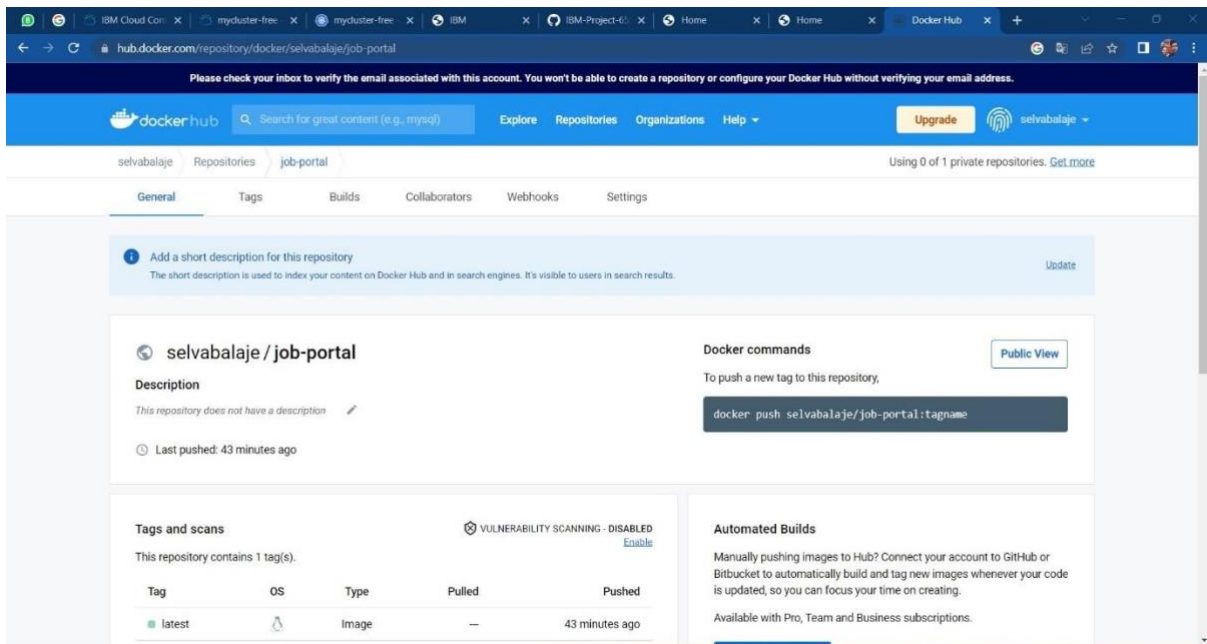
Question-1:

1. Pull an Image from docker hub and run it in docker playground.
2. Create a dockerfile for the job portal / flask application and deploy it in Docker desktop application.
3. Create a IBM container registry and push docker image of flask application or job portal app.
4. Create a Kubernetes cluster in IBM cloud and deploy flask application image or job portal image and also expose the same app to run in Nodeport.

Solution: **All the required files are uploaded in the ASSIGNMENTS/PADMANABAN P (TEAM LEADER)/ASSIGNMENT 4 folder in the Git repo. Please verify it sir/mam.

Step 1: Pull an Image from docker hub and run it in docker playground.





Docker Playground Home Docker Hub

labs.play-with-docker.com/p/cdhkj4u3tccg00fmsq0g#cdhkj4u3_cdhkj6u3tccg00fmsq1g

03:33:35

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.18 node1

cdhkj4u3_cdhkj6u3tccg00fmsq1g

IP: 192.168.0.18 OPEN PORT: 5000

Memory: 28.00% (1.094GiB / 3.906GiB) CPU: 0.47%

SSH: ssh ip172-18-0-14-cdhkj4u3tccg00fmsq0g@direct.labs.play

DELETE EDITOR


```
864a10b3c704: Pull complete
4334b2fe8293: Pull complete
93d089bea4fc: Pull complete
6bf908e955e6: Pull complete
9858a2a054c4: Pull complete
33ee61afa2: Pull complete
Digest: sha256:c3fadc9987c2177506df7ddb8ac701f98b3417b5380a7bce0f214f0f82db49e
Status: Downloaded newer image for selvalalaje/job-portal:latest
* Serving Flask app 'app'
* Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5000
* Running on http://172.17.0.2:5000
press CTRL+C to quit
^C(pressed) (local) root@192.168.0.18 ~
$ docker run -p 5000:5000 selvalalaje/job-portal:latest
* Serving Flask app 'app'
* Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5000
* Running on http://172.17.0.2:5000
```

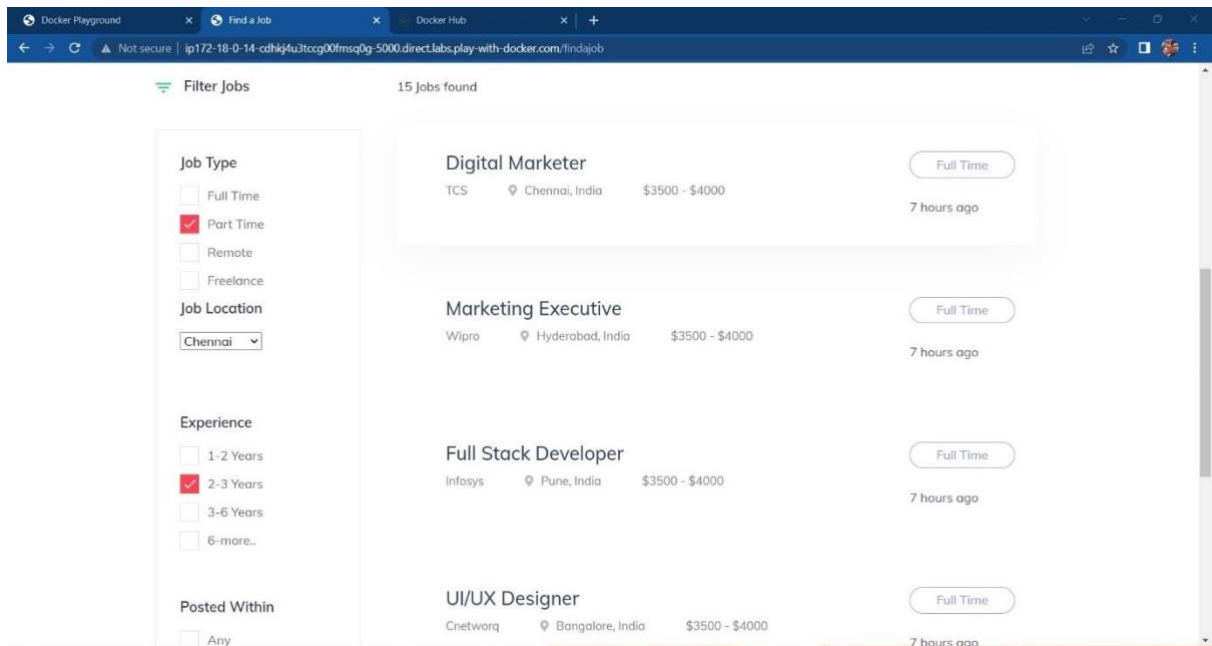
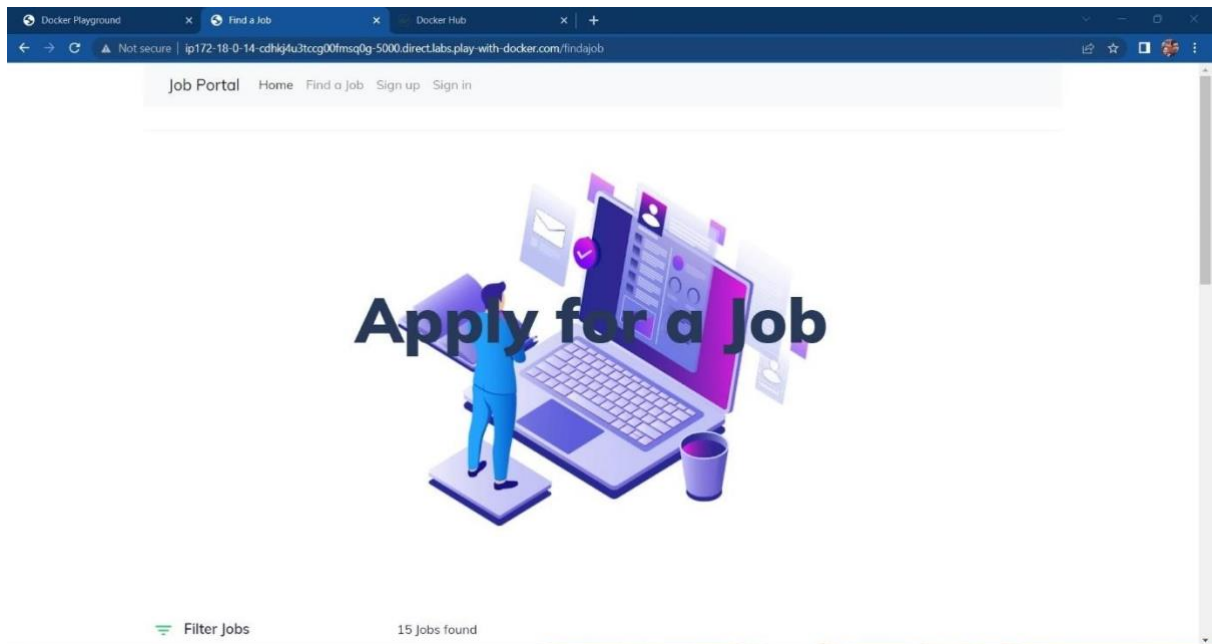
Docker Playground Home Docker Hub

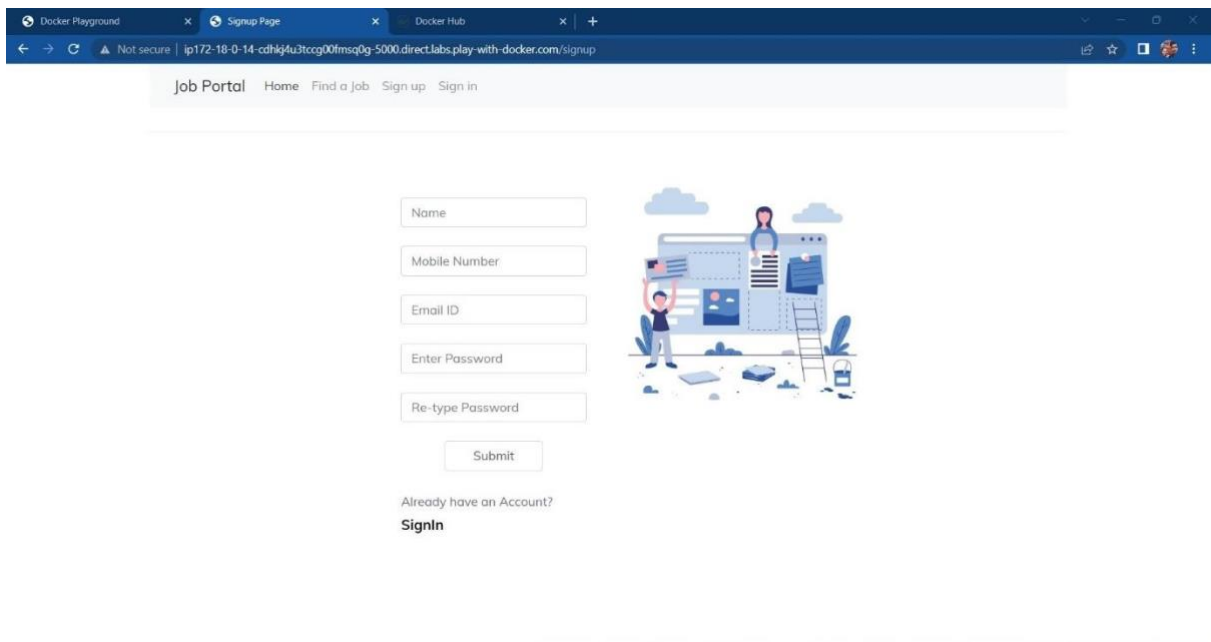
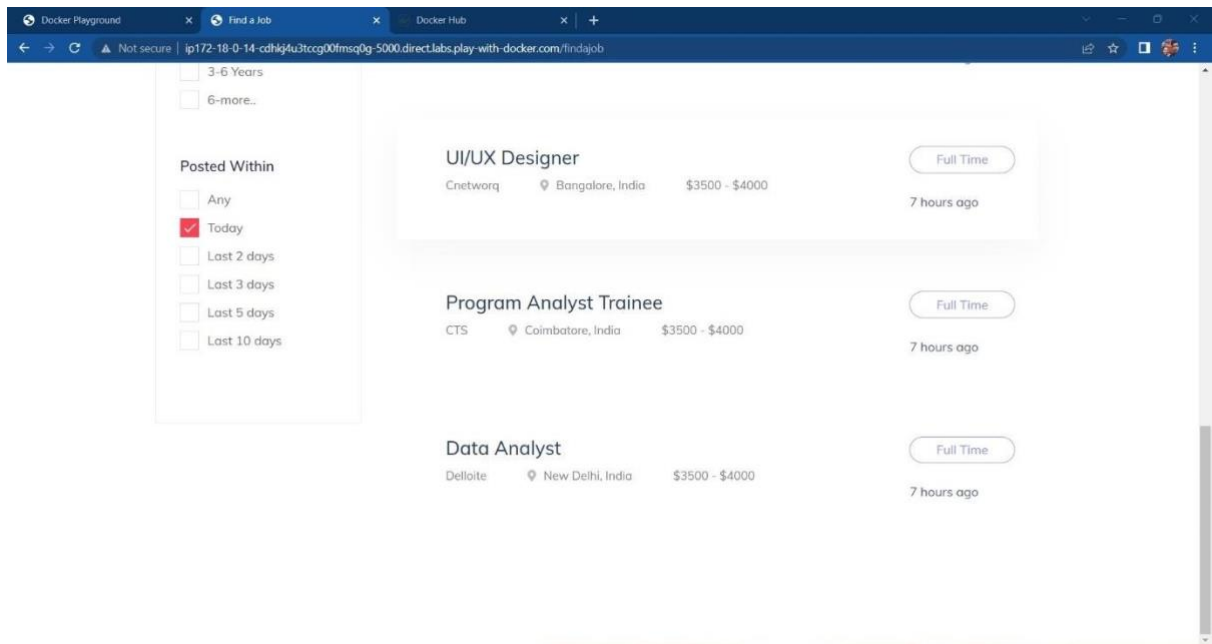
Not secure | ip172-18-0-14-cdhkj4u3tccg00fmsq0g-5000.direct.labs.play-with-docker.com

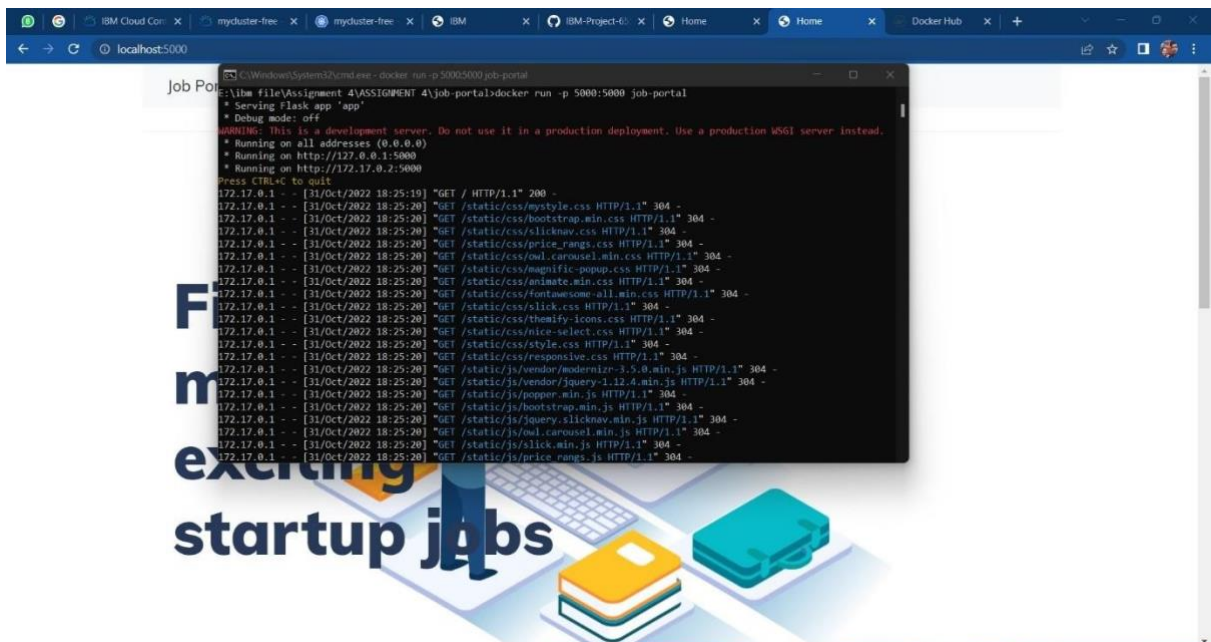
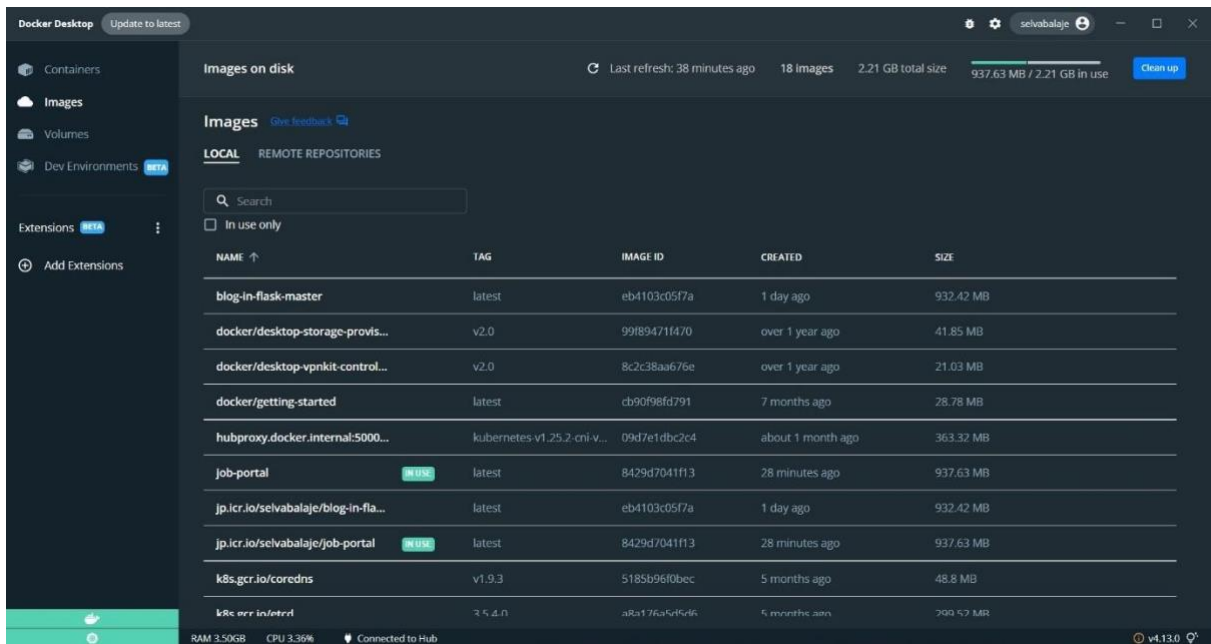
Job Portal Home Find a Job Sign up Sign in

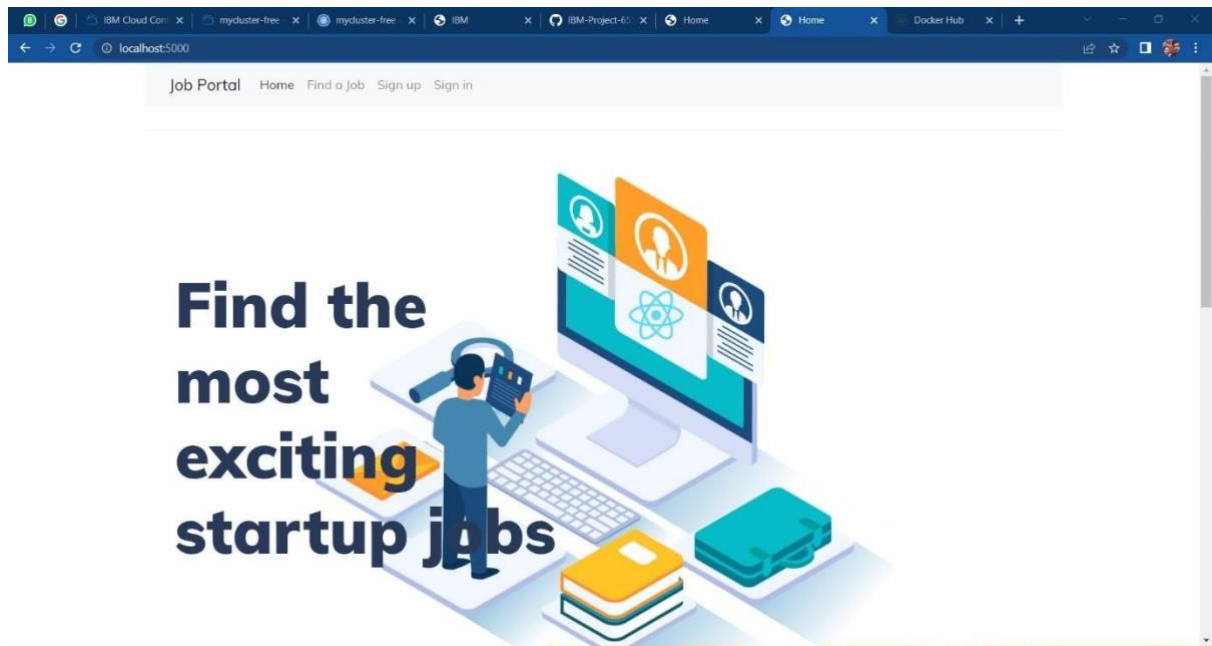
Find the most exciting startup jobs



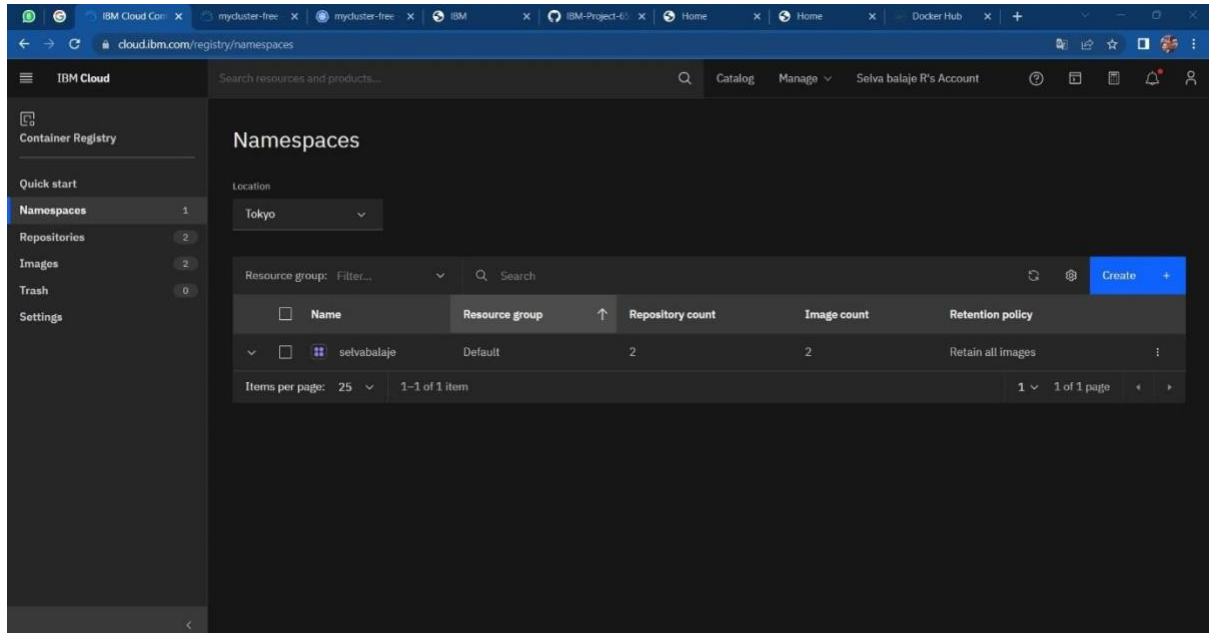








Step 3: Create a IBM container registry and push docker image of flask application or job portal app.



IBM Cloud Container Registry Repositories

Location: Tokyo

Name	Image count	Namespace	Last updated
job-portal jp.icr.io/selvabalaje/job-portal	1	selvabalaje	1 hour ago
blog-in-flask-master jp.icr.io/selvabalaje/blog-in-flask-master	1	selvabalaje	2 days ago

Items per page: 25 1-2 of 2 items

IBM Cloud Container Registry Images

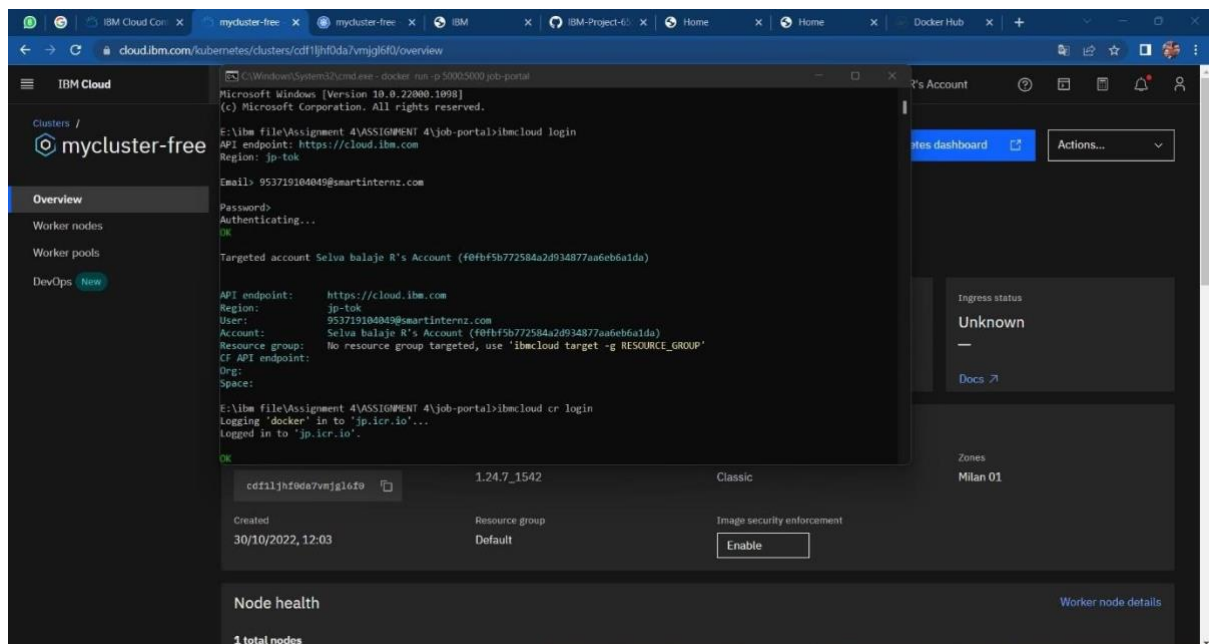
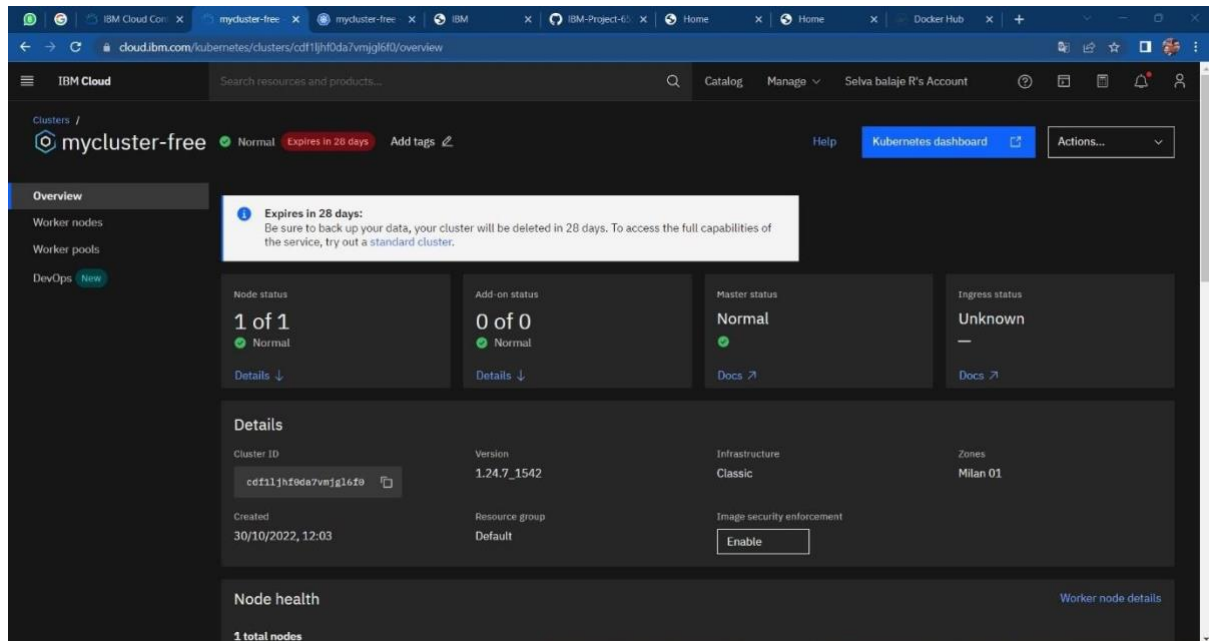
Location: Tokyo

View by: Digest

Repository@digest	Tags	Manifest type	Created	Size	Security status
selvabalaje/job-portal@sha256:c3fadc9987c2...	latest	Docker	1 hour ago	360 MB	24 issues
selvabalaje/blog-in-flask-master@sha256:d27973686891...	latest	Docker	2 days ago	356 MB	23 issues

Items per page: 25 1-2 of 2 items

Step 4: Create a Kubernetes cluster in IBM cloud and deploy flask application image or job portal image and also expose the same app to run in Nodeport.



IBM Cloud

Clusters / mycluster-free

Overview

Worker nodes

Worker pools

DevOps [New](#)

```
E:\ibm file\Assignment 4\ASSIGNMENT 4\job-portal>ibmcloud cr login
Logging 'docker' in to 'jp.icr.io'...
Logged in to 'jp.icr.io'.

E:\ibm file\Assignment 4\ASSIGNMENT 4\job-portal>ibmcloud plugin list
Listing installed plug-ins...

Plugin Name      Version  Status  Private endpoints supported
container-registry 1.0.2    true    false
container-service[kubernetes-service/ks] 1.0.459  false   false
observe-service[ob] 1.0.82    false   false

E:\ibm file\Assignment 4\ASSIGNMENT 4\job-portal>docker push jp.icr.io/selvahalaje/job-portal
Using default tag: latest
The push refers to repository [jp.icr.io/selvahalaje/job-portal]
d1e94296717c: Pushed
23df97abdb1: Mounted from selvahalaje/blog-in-flask-master
79270488747d: Mounted from selvahalaje/blog-in-flask-master
1646c2188de8: Mounted from selvahalaje/blog-in-flask-master
bfc1deb8136e: Mounted from selvahalaje/blog-in-flask-master
1f12318682dc: Mounted from selvahalaje/blog-in-flask-master
3d6eb1152931: Mounted from selvahalaje/blog-in-flask-master
100796cdf3b1: Mounted from selvahalaje/blog-in-flask-master
54ac35a6fa0b: Mounted from selvahalaje/blog-in-flask-master
8d51c618126f: Mounted from selvahalaje/blog-in-flask-master
9ff6e4d46744: Mounted from selvahalaje/blog-in-flask-master

cd11jhf0da7vmjgl6f9 1.24.7_1542 Classic

Created 30/10/2022, 12:03 Resource group Default Image security enforcement Enable

Node health 1 total nodes
```

Worker node details

IBM Cloud

Clusters / mycluster-free

Overview

Worker nodes

Worker pools

DevOps [New](#)

```
E:\ibm file\Assignment 4\ASSIGNMENT 4\job-portal>docker push jp.icr.io/selvahalaje/job-portal
Using default tag: latest
The push refers to repository [jp.icr.io/selvahalaje/job-portal]
d1e94296717c: Pushed
23df97abdb1: Mounted from selvahalaje/blog-in-flask-master
79270488747d: Mounted from selvahalaje/blog-in-flask-master
1646c2188de8: Mounted from selvahalaje/blog-in-flask-master
bfc1deb8136e: Mounted from selvahalaje/blog-in-flask-master
1f12318682dc: Mounted from selvahalaje/blog-in-flask-master
3d6eb1152931: Mounted from selvahalaje/blog-in-flask-master
100796cdf3b1: Mounted from selvahalaje/blog-in-flask-master
54ac35a6fa0b: Mounted from selvahalaje/blog-in-flask-master
8d51c618126f: Mounted from selvahalaje/blog-in-flask-master
9ff6e4d46744: Mounted from selvahalaje/blog-in-flask-master
a89d1d47b5a1: Mounted from selvahalaje/blog-in-flask-master
655ed1b7a428: Mounted from selvahalaje/blog-in-flask-master
latest: digest: sha256:c3fadc9987c2177586d76dbf8ac701f98b3417b5380a7bce0f214f8f82db48e size: 3054

E:\ibm file\Assignment 4\ASSIGNMENT 4\job-portal>kubect1 config current-context
mycluster-free/cd11jhf0da7vmjgl6f9

E:\ibm file\Assignment 4\ASSIGNMENT 4\job-portal>kubect1 apply -f kubernetes/ibm_deployment.yaml
Unable to connect to the server: failed to refresh token: oauth2: cannot fetch token: 400 Bad Request
Response: {"errorCode":"BXNDIM4088","errorMessage":"Provided refresh token is expired.", "context":{"requestId":"en2wd2c-560af8779e6a4728a15cale980f36c","requestType":"incoming_identity_token","userAgent":"Go-http-client/2.0","url":"https://identity-1-ap-north-1.amazonaws.com","instanceId":"iamid-7-10-14611-293c9a8-6778f68cf-zfpwg","threadID":"c5689","host":"iamid-7-10-14611-293c9a8-6778f68cf-zfpwg","startTime":"31.10.2022 18:18:36:519 UTC","endTime":"31.10.2022 18:18:36:526 UTC","elapsedTime":"7","locale":"en_US","clusterName":"iam-id-prod-ap-north-tok84"}}

E:\ibm file\Assignment 4\ASSIGNMENT 4\job-portal>ibmcloud ks cluster config --cluster cd11jhf0da7vmjgl6f9

cd11jhf0da7vmjgl6f9 1.24.7_1542 Classic

Created 30/10/2022, 12:03 Resource group Default Image security enforcement Enable

Node health 1 total nodes
```

Worker node details

IBM Cloud

Clusters / mycluster-free

Overview

Worker nodes

Worker pools

DevOps **New**

```
E:\ibm file\Assignment 4\ASSIGNMENT 4\job-portal>kubectl apply -f kubernetess/ibm_deployment.yaml
deployment.apps/job-portal created
E:\ibm file\Assignment 4\ASSIGNMENT 4\job-portal>kubectl apply -f kubernetess/flask_service.yaml
service/flask-app-service configured
E:\ibm file\Assignment 4\ASSIGNMENT 4\job-portal>kubectl apply -f kubernetess/flask_ingress.yaml
ingress.networking.k8s.io/flask-app-ingress unchanged
E:\ibm file\Assignment 4\ASSIGNMENT 4\job-portal>kubectl describe svc flask-app-service
Name: flask-app-service
Namespace: default
Labels: <none>
Annotations: <none>
Selector: app=job-portal
Type: NodePort
IP Family Policy: SingleStack
IP Families: IPv4
IP: 172.21.170.240
IPs: 172.21.170.240
Port: <unset> 5000/TCP
TargetPort: 5000/TCP
NodePort: <unset> 32437/TCP
Endpoints: 172.30.255.18:5000,172.30.255.19:5000,172.30.255.20:5000
Session Affinity: None
External Traffic Policy: Cluster
Events: <none>
```

Created 30/10/2022, 12:03

Resource group Default

Image security enforcement **Enable**

Node health 1 total nodes

Worker node details

Ingress status Unknown

Docs

Zones Milan 01

kubernetes

default

Search

Workloads

Workload Status

Running 2 Deployments

Running 8 Pods

Running 2 Replica Sets

Deployments

Name	Images	Labels	Pods	Created
job-portal	Show all	-	3 / 3	40 minutes ago
blog-in-flask	Show all	-	5 / 5	a day ago

IBM Cloud Container Service (CaaS) console showing the Kubernetes Workloads page for the default namespace.

Workloads

Pods

Name	Images	Labels	Node	Status	Restarts	CPU Usage (cores)	Memory Usage (bytes)	Created
job-portal-864894f96-5f2sg	Show all	Show all	10.144.216.57	Running	0	1.00m	20.86Mi	41 minutes ago
job-portal-864894f96-lxd2z	Show all	Show all	10.144.216.57	Running	0	1.00m	21.19Mi	41 minutes ago
job-portal-864894f96-pll2g	Show all	Show all	10.144.216.57	Running	0	1.00m	20.70Mi	41 minutes ago
blog-in-flask-575f58686c-wmqff	Show all	Show all	10.144.216.57	Running	0	1.00m	19.82Mi	a day ago
blog-in-flask-575f58686c-6dggg	Show all	Show all	10.144.216.57	Running	0	1.00m	19.95Mi	a day ago
blog-in-flask-575f58686c-4j2g	Show all	Show all	10.144.216.57	Running	0	1.00m	19.97Mi	a day ago
blog-in-flask-575f58686c-8gkts	Show all	Show all	10.144.216.57	Running	0	1.00m	19.80Mi	a day ago
blog-in-flask-575f58686c-lp64m	Show all	Show all	10.144.216.57	Running	0	1.00m	20.54Mi	a day ago

Replica Sets

Name	Images	Labels	Pods	Created
job-portal-864894f96	Show all	Show all	3 / 3	41 minutes ago
blog-in-flask-575f58686c	Show all	Show all	5 / 5	a day ago

IBM Cloud Container Service (CaaS) console showing the Kubernetes Workloads page for the default namespace.

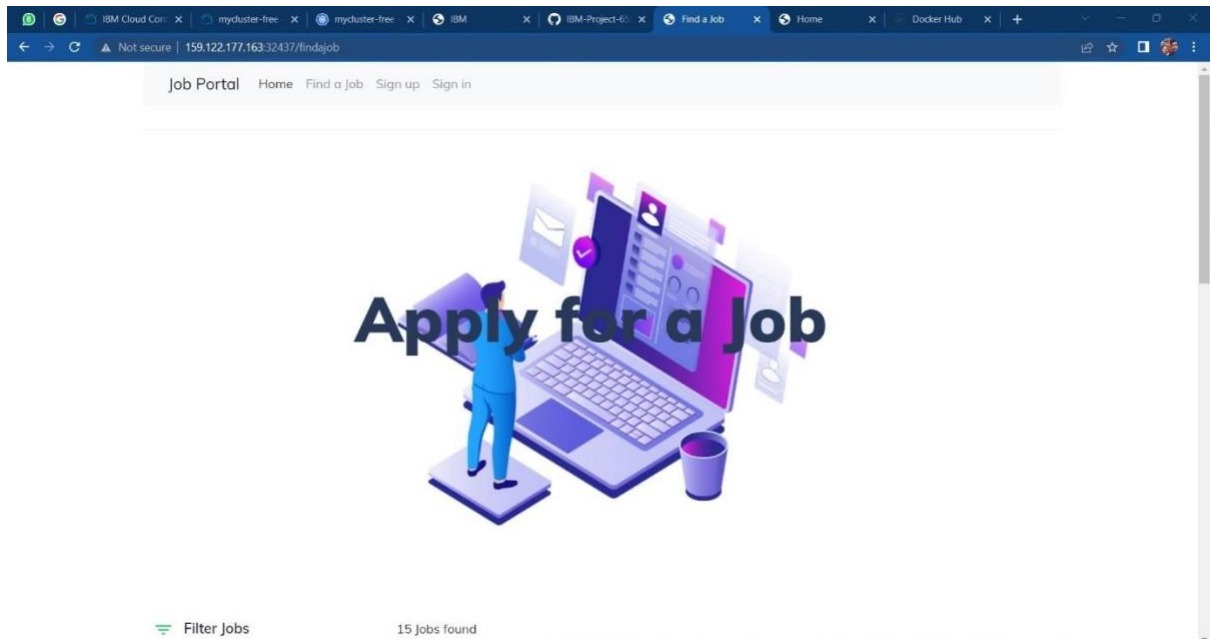
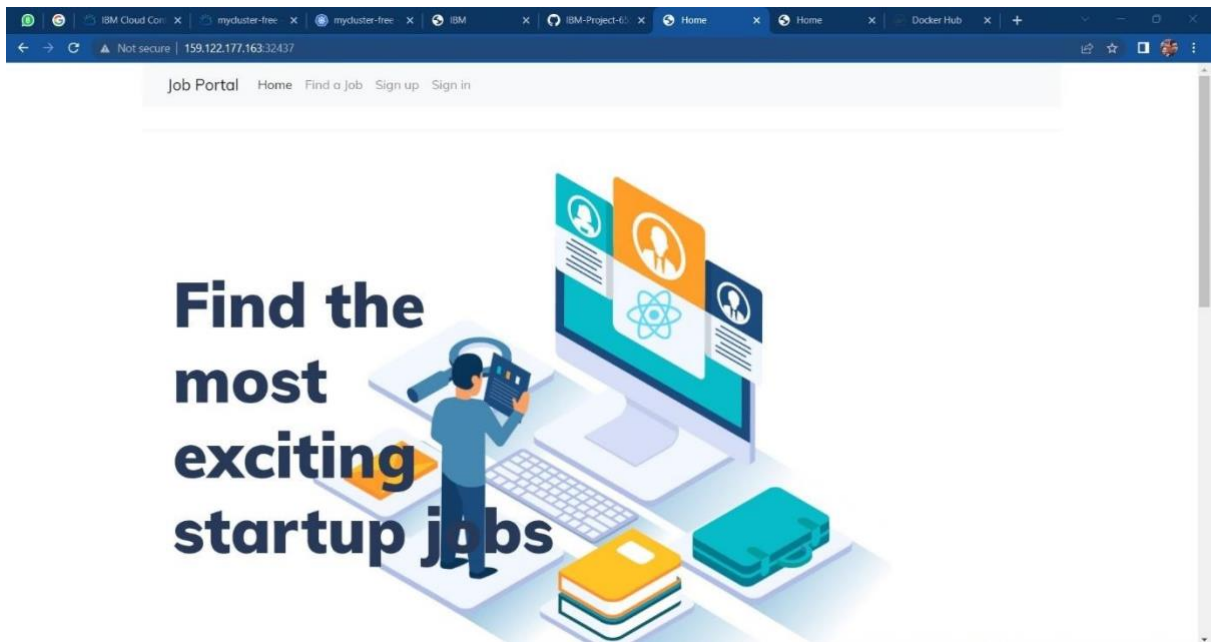
Workloads

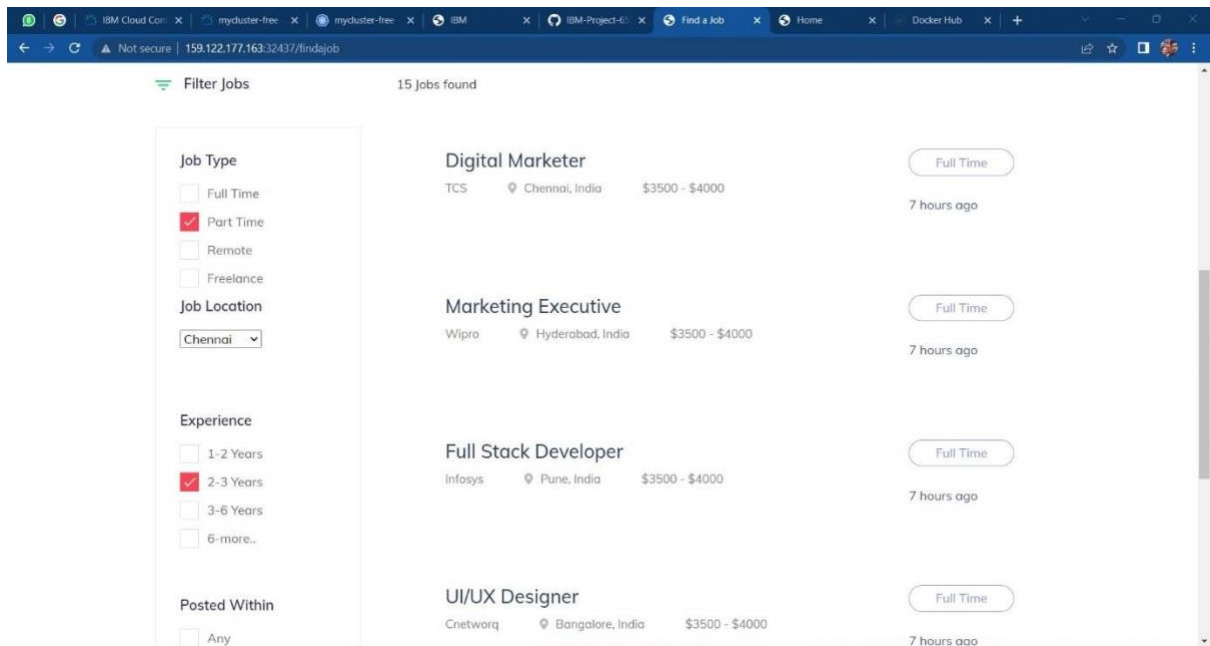
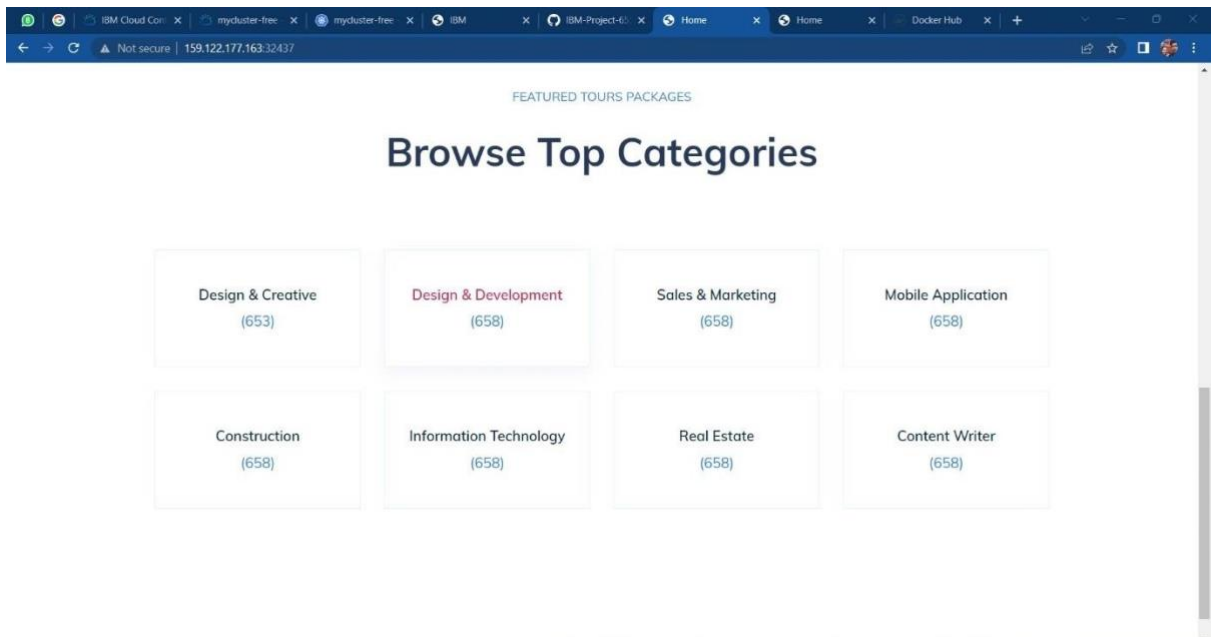
Pods

Name	Images	Labels	Node	Status	Restarts	CPU Usage (cores)	Memory Usage (bytes)	Created
job-portal-864894f96-5f2sg	Show all	Show all	10.144.216.57	Running	0	1.00m	20.86Mi	41 minutes ago
job-portal-864894f96-lxd2z	Show all	Show all	10.144.216.57	Running	0	1.00m	21.19Mi	41 minutes ago
job-portal-864894f96-pll2g	Show all	Show all	10.144.216.57	Running	0	1.00m	20.70Mi	41 minutes ago
blog-in-flask-575f58686c-wmqff	Show all	Show all	10.144.216.57	Running	0	1.00m	19.82Mi	a day ago
blog-in-flask-575f58686c-6dggg	Show all	Show all	10.144.216.57	Running	0	1.00m	19.95Mi	a day ago
blog-in-flask-575f58686c-4j2g	Show all	Show all	10.144.216.57	Running	0	1.00m	19.97Mi	a day ago
blog-in-flask-575f58686c-8gkts	Show all	Show all	10.144.216.57	Running	0	1.00m	19.80Mi	a day ago
blog-in-flask-575f58686c-lp64m	Show all	Show all	10.144.216.57	Running	0	1.00m	20.54Mi	a day ago

Replica Sets

Name	Images	Labels	Pods	Created
job-portal-864894f96	Show all	Show all	3 / 3	41 minutes ago
blog-in-flask-575f58686c	Show all	Show all	5 / 5	a day ago





☐ 3-6 Years

☐ 6-more...

Posted Within

☐ Any

☒ Today

☐ Last 2 days

☐ Last 3 days

☐ Last 5 days

☐ Last 10 days

UI/UX Designer

Cnetworq 📍 Bangalore, India \$3500 - \$4000

Full Time

7 hours ago

Program Analyst Trainee

CTS 📍 Coimbatore, India \$3500 - \$4000

Full Time

7 hours ago

Data Analyst

Delloite 📍 New Delhi, India \$3500 - \$4000

Full Time

7 hours ago

Job Portal

Home

Find a Job

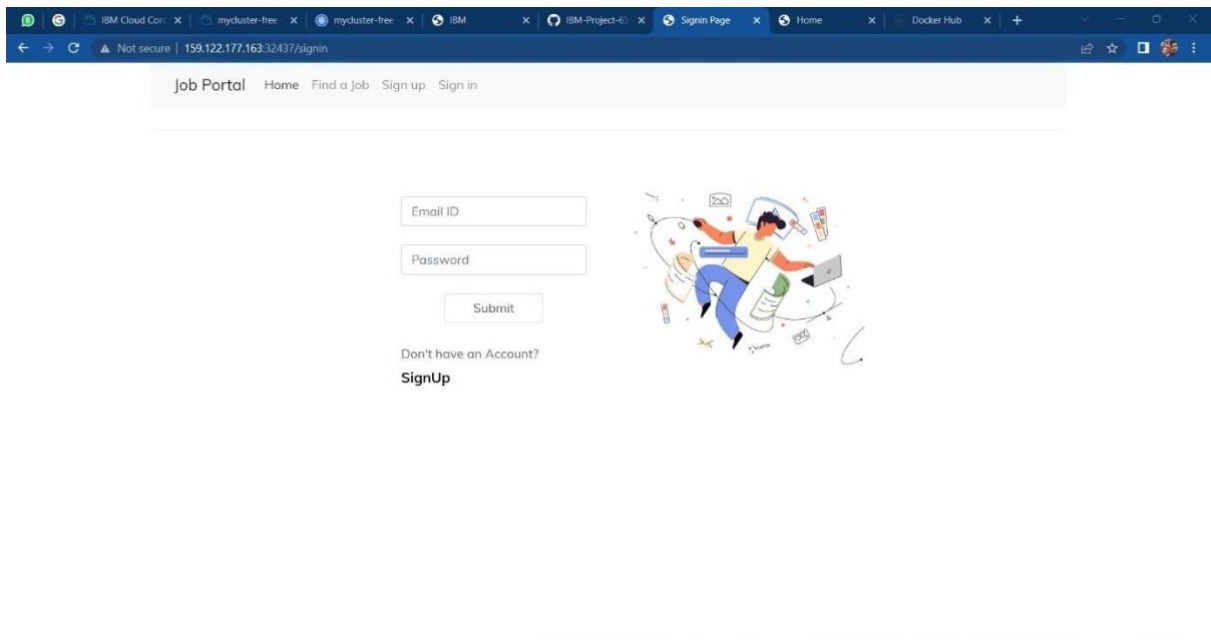
Sign up

Sign in

Illustration of a person working on a computer screen with a ladder and books.

Already have an Account?

[Signin](#)



View the deployed Job-portal flask application by clicking the below link:

<http://159.122.177.163:32437/>